What we claim is :

1. A pseudo noise generator comprising:

a first arbitrary random number generator for generating two groups of first random number signals respectively corresponding to divided Amplitude Probability Distribitions, which are obtained by dividing a specified Amplitude Probability Distribition into two parts at a specified level;

a second arbitrary random number generator for generating two groups of second random number signals respectively defined by a specified Pulse Duration Distribution and a specified Pulse Spacing Destribution at said specified level;

control means for selecting ones of said two groups of first random number signals in accordance with said specified Pulse Duration Distribution and said specified Pulse Spacing Destribution defined at said specified level; and

a D/A converter for converting the selected signals to pseudo noise of analog value; said pseudo noise being generated in accordance with said Amplitude Probability Distribition, and said specified Pulse Duration Distribution and said specified Pulse Spacing Destribution at said specified level.

2. A pseudo noise generator comprising:

first terminal means receiving first clock pulses;

a controller for generating, in addition to a selection signal, second clock pulses counted down by one forth from said first clock pulses;

a first arbitrary random number generator for generating, under control with said first clock pulses and said selection signal, two groups of first random number signals respectively corresponding to divided Amplitude Probability Distribitions, which are obtained by

dividing a specified Amplitude Probability Distribition into two parts at a specified level;

a second arbitrary random number generator for generating, under control of said second clock pulses and said selection signal, two groups of second random number signals respectively defined by a specified Pulse Duration Distribution and a specified Pulse Spacing Destribution at said specified level; and

a D/A converter for converting the selected signals to pseudo noise of analog value; said pseudo noise being generated in accordance with said Amplitude Probability Distribition, and said specified Pulse Duration Distribution and said specified Pulse Spacing Destribution at said specified level;

said controller controlling said first arbitrary random number generator by said selection signal to selecting ones of said two groups of first random number signals in accordance with said specified Pulse Duration Distribution and said specified Pulse Spacing Destribution defined at said specified level.

3. A pseudo noise generator according to claim 2, in which :

said first arbitrary random number generator comprises eight stages connected successively in cascade, each of stages comprising a cascade connection of a bit generator and a latch circuits, said eight stages being controlled by said first clock pulses, said selection signal being applied to a first stage of said eight stages, said first random number signals being obtained from the last stage of said eight stages.

4. A pseudo noise generator according to claim 2, in which :

said second arbitrary random number generator comprises eight stages connected successively in cascade, each of stages comprising a cascade connection of a bit generator and a latch circuits, said eight stages being controlled by said second clock pulses, said selection signal

being applied to a first stage of said eight stages, said second random number signals being obtained from the last stage of said eight stages.

5. A pseudo noise generator according to claim 3 or 4, in which :

said bit generator comprises a uniform random generator for generating uniform random numbers z controlled under said first clock pulses, a memory for storing data neccessary to determine each bit y of said random number signals to be generated, and a comparator for generating the state "1" or the state "0" in accordance with comparison results I(where $y < z$) and II (where $y \geqq z$), respectively.

6. A pseudo noise generator according to claim 2, in which :

said controller comprises an I-T converter for converting said second arbitrary random numbers i to time length data T_* , a down counter counting said time length data T_* under control of said first clock pulses, a clock generator for generate said second clock pulses from the counting state of said down counter under control of said first clock pulses, and a signal generator for generating said selection signal from the counting state of said down counter under control of said first clock pulses.